



GLJ Recycling Ltd

Permit application supporting documents

11 – Fire Management Plan

22 August 2019

Issue and Revision Record

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Key Site Information

Site Location: Chapel Farm Industrial Estate, Cwmcarn, Newport, NP11 7NL

Permit Holder: GLJ Recycling Limited

Environmental Health and Safety Manager: Coleen Andrews

Emergency Contact Numbers

Police, Fire, Ambulance: 999

National Resources Wales: 0300 065 3000 (24 hour
Incident Line)

Local Environment Health Authority: 0300 065 3394

Operator Contacts

Site Contact: Ms Colleen Andrews: 01495 272 988

Out of Hours: Mr Gareth Jones: 07968 069 007

Lord and Midgley: Main Office: 01495 272 988

Water Company

Waste Water company: GD Environmental: 01633 277 755

Maintenance Department: 01495 272 988 (Ask for Gareth)

Out of Hours: Gareth Jones: 07968 069 007

CCTV

Secure IT: 01656 721 319 (24 hours)

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1 Fire Prevention Plans

1.1 Introduction

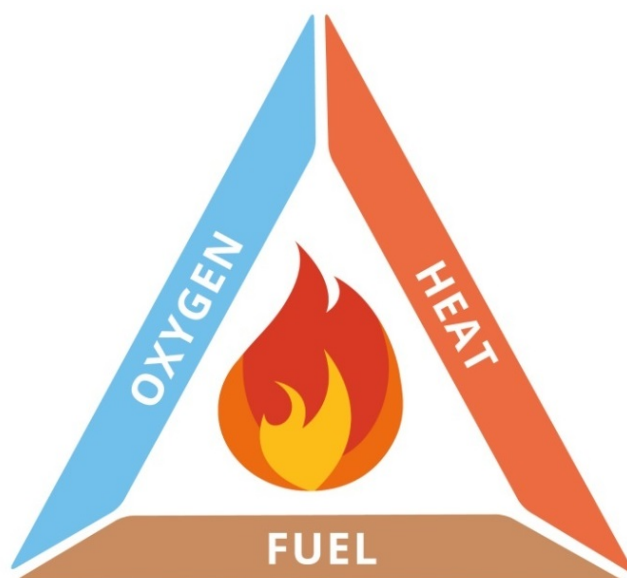
Fire can have a devastating effect on businesses, health and safety and the environment. It can lead to significant losses in production, fines and compensation claims with regards to health and safety and also significant pollution of the surrounding environment (pollution from contaminated fire water, smoke and debris etc).

This fire prevention plan (FPP) sets out all the measures the operator will put in place to reduce the risk of a fire breaking out. It will identify the principle causes of a fire at the site and sets out the measures in place to address those fire risks. These measures will depend on the activities being carried out.

1.1.1 The Fire Triangle

For a fire to start there are 3 elements that **MUST** be present at the same time. This is known as the Fire Triangle and is depicted in Figure 1

Figure 1: Fire Triangle



If any element of the Fire Triangle is not present at the same time then a fire cannot start. Likewise, if a fire has started and fuel or air supply runs out then the fire cannot establish itself.

This FPP aims to reduce the risk of fires occurring on site and sets out what procedures **MUST** be taken in the event of a fire to reduce its impact on the business, health and safety and the environment. By following this FPP GLJ Recycling Limited will meet all the minimum standards and provide adequate protection from the risk of pollution caused by fire at the site.

The plan will be reviewed in its entirety at least every 4 years, or more frequently following significant plant modification or an incident. The risk assessments and procedures will be reviewed on an annual basis to ensure they remain applicable to the activities on site.

Should significant changes be required these would be communicated to all site staff.

2 About the site

2.1 Site Description

GLJ Recycling Limited operates a waste management facility at Chapel Farm Industrial Estate, Cwmearn, Newport, NP11 7NL. The site consists of approximately 22 hectares of land located on a former sugar factory site on the bank of the River Ebbw.

The site holds environmental permits, number DB3097TJ & LB3093HH, issued by the Natural Resources Wales, which authorises the following activities:

Table 1: Activities currently authorised by permit

Permit Number	Standard Rules No	Activity type
DB3097TJ	SR2008 No21	Metal Recycling
DB3097TJ	SR2008 No20	ELV processing
LB3093HH	SR2008 No23	WEEE storage & treatment
LB3093HH	SR2008 No03	Waste transfer & treatment

The facility comprises a single site providing a range of distinct, authorised waste management activities. Table 1 summarises the activities currently authorised by the permit.

It is proposed to vary the current permit to allow for:

- The addition of an installation activity to comply with the Industrial Emissions Directive (IED);
- An amendment to the Limits of Activities associated with activity A1;
- Amendments to operating techniques.

The site consists of a ferrous/non-ferrous metal recycling site. The metal recycling activity is carried out on an impermeable surface, which encompasses an appropriate drainage system.

2.1.1 Types and Quantities of Material stored on Site

Currently the site is limited to accepting no more than 75,000 tonnes per annum of waste for each permitted activity.

There is no intention to increase the tonnage of non-metallic waste accepted at the site.

It is proposed that the tonnage limit for waste accepted at the site for Metal Recycling (Permit DB3097TJ) be increased to 170,000 tonnes per annum, of which no more than 110,000 tonnes will be metal that is processed by the shredder.

As the amounts of material received and sold are subject heavily to market conditions, it is not possible to put an exact figure on the quantities of material on site at any one time. In addition, it is important to understand the permitted storage time for each material type. This will help to determine the risk of fire spreading (the longer combustible materials are stored, the risk of a fire spreading is significantly increased).

Table 2 below details the maximum permitted quantities and storage times of each permitted material, as defined in the site environmental permits listed above:

DB3097TJ SR2008 No21 Metal Recycling

Table 2.1 activities	
Description of activities	Limits of activities
<p>R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R4: Recycling/reclamation of metals and metal compounds</p>	<p>Treatment consisting only of sorting, separation, grading, shearing, shredding, baling, compacting, crushing, granulating and cutting of ferrous metals or alloys and non-ferrous metals into different components for recovery.</p> <p>The maximum quantity of non-hazardous waste subject to a shredding operation shall not exceed 75 tonnes per day.</p> <p>There shall be no treatment of lead acid batteries.</p> <p>The maximum quantity of hazardous waste stored at the site shall not exceed 50 tonnes at any one time.</p> <p>Wastes shall be stored for no longer than 3 years prior to recovery.</p>

DB3097TJ SR2008 No20 ELV processing

Table 2.1 activities	
Description of activities	Limits of activities
<p>R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R5: Recycling/reclamation of other inorganic materials</p> <p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>Treatment consisting only of depollution of waste motor vehicles and sorting, separation, grading, baling, shearing, compacting, crushing or cutting of waste into different components for recovery.</p> <p>There shall be no treatment of lead acid batteries, other than sorting and separating from other wastes.</p> <p>The maximum quantity of hazardous waste treated for disposal or recovery shall not exceed 10 tonnes per day. This does not include the manual depollution and dismantling of waste motor vehicles.</p> <p>Wastes shall be stored for no longer than 1 year prior to disposal and 3 years prior to recovery.</p> <p>The maximum quantity of hazardous waste stored at the site not exceed 50 tonnes at any one time of which no more than 10 tonnes shall be stored for disposal. This does not include waste motor vehicles awaiting manual depollution.</p> <p>No more than 50 tonnes of intact waste vehicle tyres (waste code 16 01 03) shall be stored at the site.</p>

LB3093HH SR2008 No23 WEEE storage & treatment

Table 2.1 activities	
Description of activities	Limits of activities
<p>R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R5: Recycling/reclamation of other inorganic materials</p> <p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>Treatment consisting only of sorting, dismantling, separation, shredding, screening, grading, baling, shearing, compacting, crushing, granulation, repair or refurbishment, or cutting of waste into different components for recovery.</p> <p>There shall be no treatment of WEEE containing ozone depleting substances.</p> <p>The maximum quantity of non-hazardous waste subject to a shredding operation shall not exceed 75 tonnes per day.</p> <p>The maximum quantity of hazardous waste treated for disposal or recovery activity shall not exceed 10 tonnes per day. This does not include the manual sorting, manual dismantling, repair or refurbishment of WEEE.</p> <p>Wastes shall be stored for no longer than 1 year prior to disposal or 3 years prior to recovery.</p> <p>The maximum quantity of hazardous waste stored at the site shall not exceed 50 tonnes at any one time of which no more than 10 tonnes shall be stored for disposal. This does not include WEEE awaiting manual sorting, manual dismantling, repair or refurbishment.</p>

LB3093HH SR2008 No03 Waste transfer & treatment

Table 2.1 activities	
Description of activities	Limits of activities
<p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>D14: Repackaging prior to submission to any of the operations numbered D1 to 13</p> <p>D9: Physico-chemical treatment not specified elsewhere in Annex IIA which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D8 and D10 to D12</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R5: Recycling/reclamation of other inorganic materials</p>	<p>Treatment consisting only of manual sorting, separation, screening, baling, shredding, crushing or compaction of waste into different components for disposal, (no more than 50 tonnes per day) or recovery.</p> <p>No more than a total of 50 tonnes of intact and shredded waste vehicle tyres (waste codes 16 01 03 and 19 12 04) shall be stored at the site.</p>

For the purposes of this Fire Management Plan, and as a worst case, it has been assumed that all materials are present to the maximum volume at the same time.

2.2 Site Plan

The following site plans can be found showing:

- Site drainage arrangements – Figure 2.
- Site layout plans (storage locations, roadways, pile locations) – Figure 3
- Fire extinguisher locations – Figure 4
- Fire service access routes and location of fire hydrants and water supplies – Figure 5
- Fire hydrant locations (Figure 6)
- Nearby watercourses (**Error! Reference source not found.**), human receptors (Figure 8) and wind rose (9).

Figure 2 – Site Drainage Arrangements

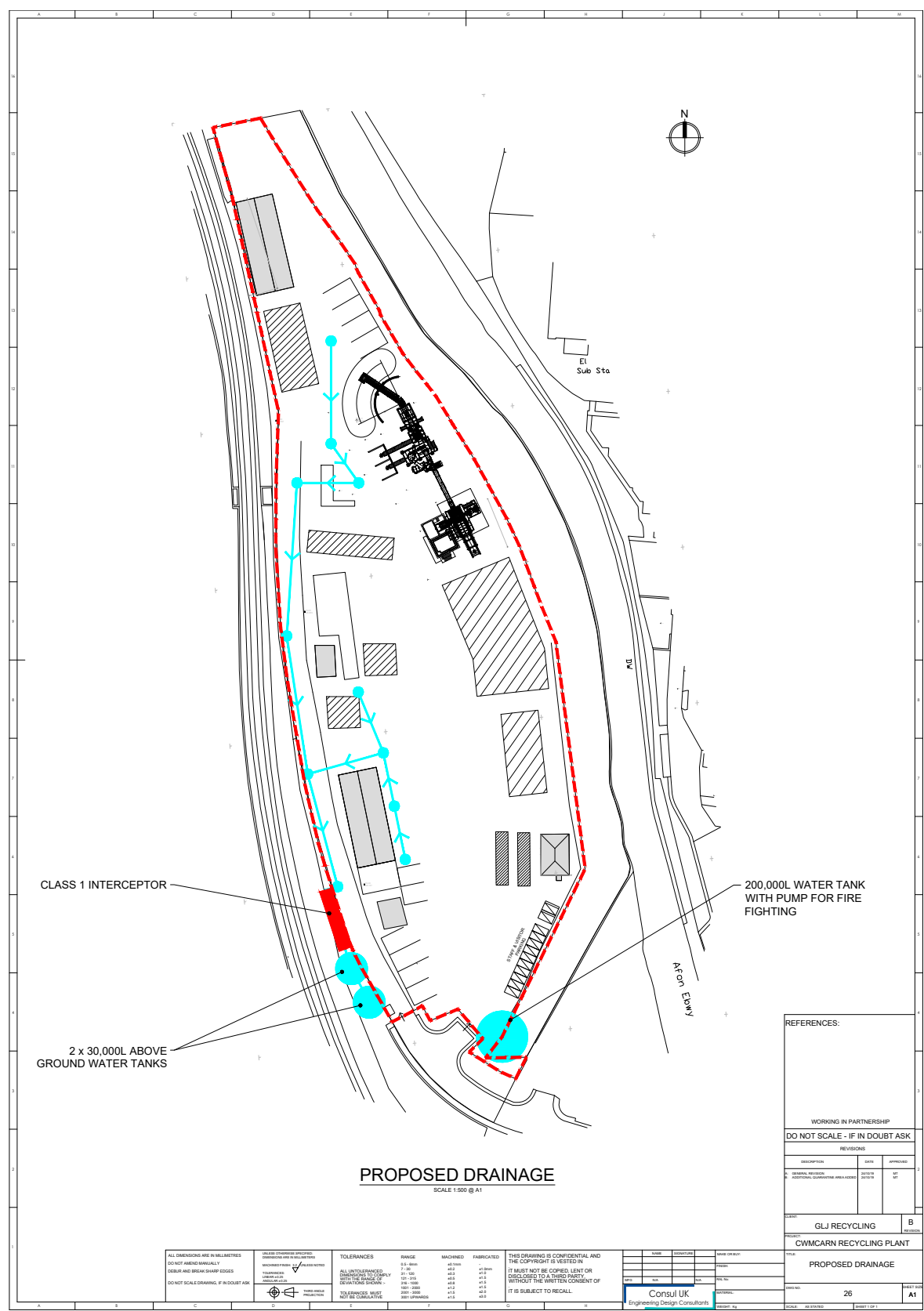


Figure 4 – Fire Extinguisher Locations

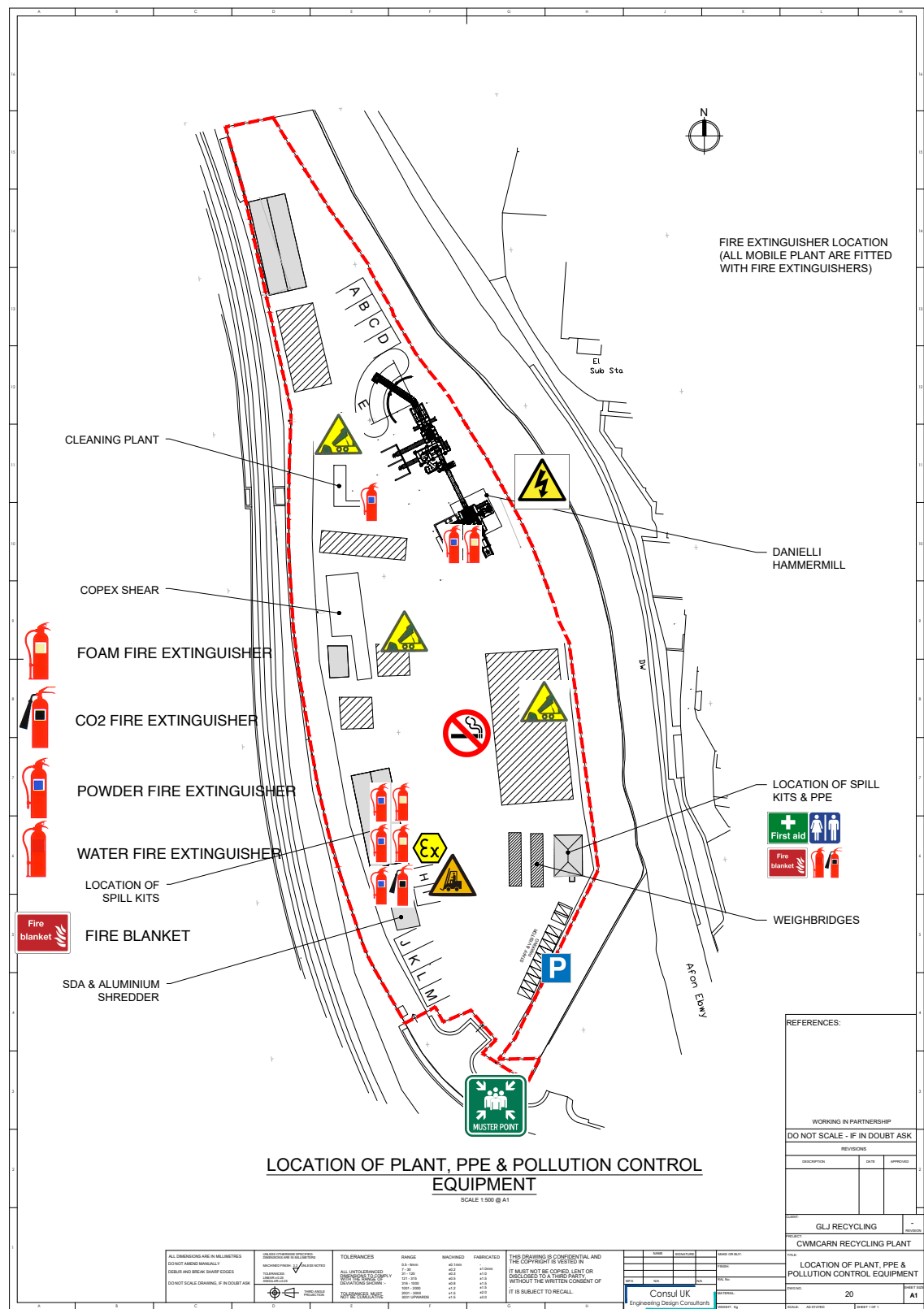


Figure 5 – Fire Service Routes

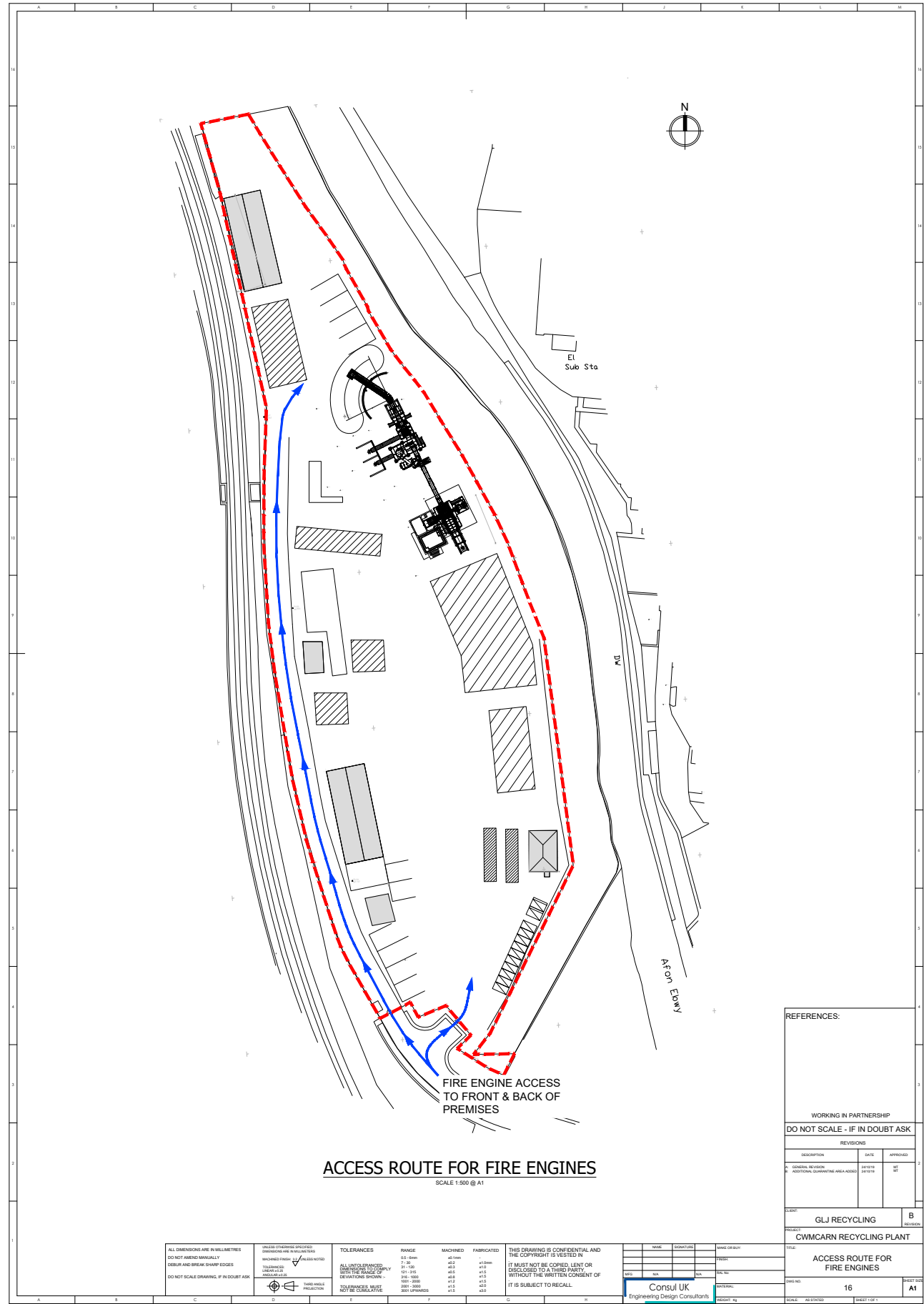
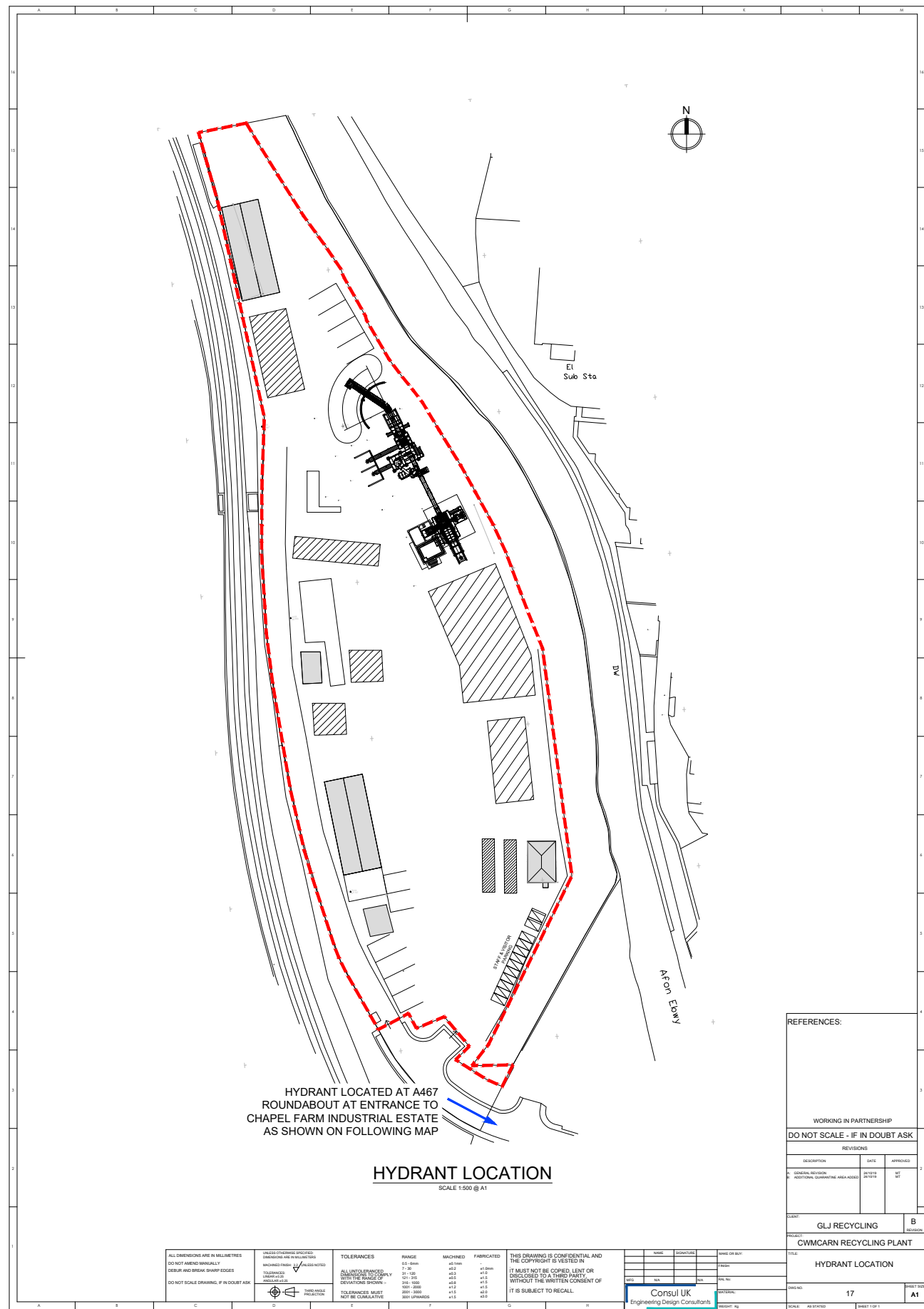


Figure 6a and 6b – Fire Hydrant Location





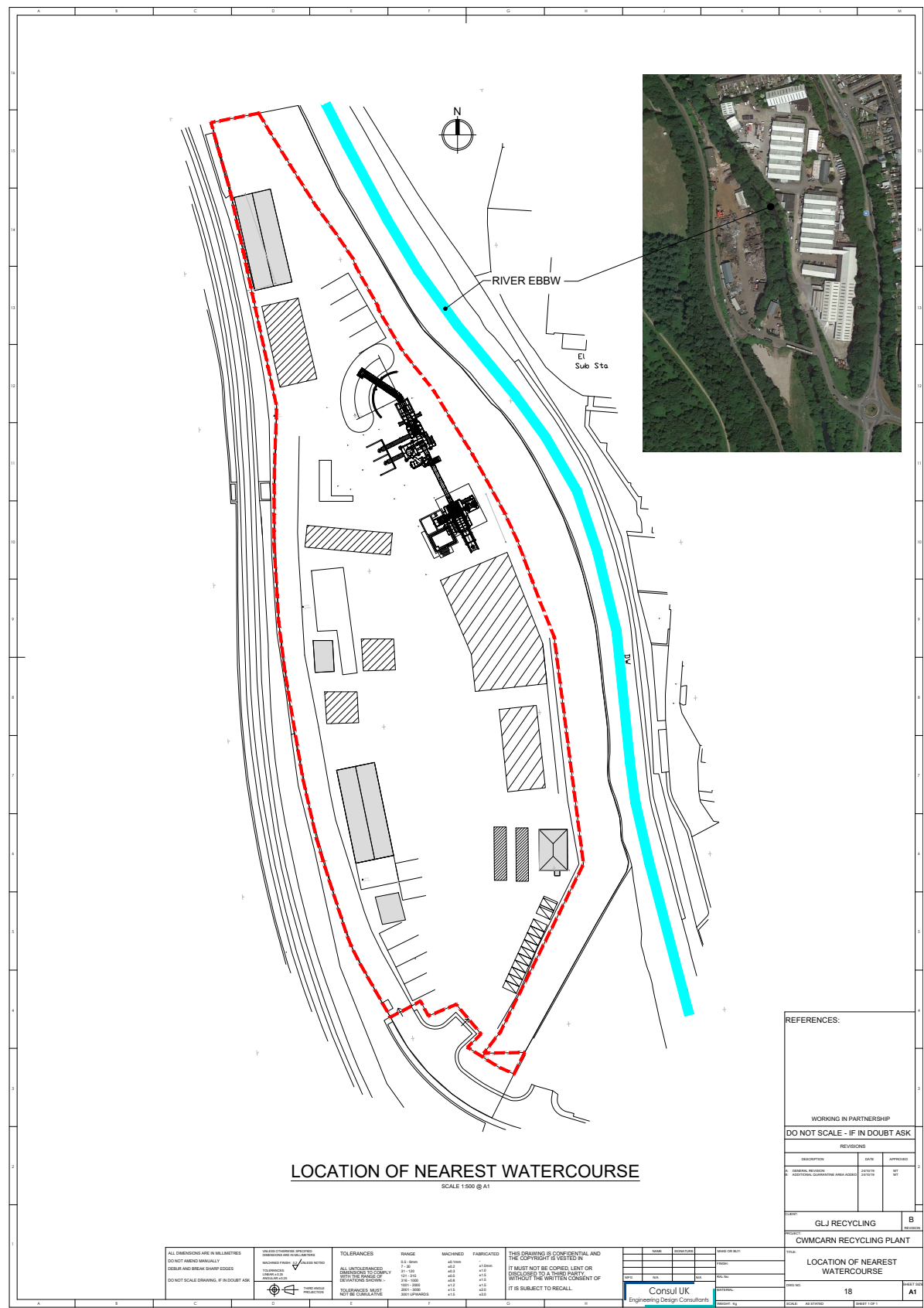
2.3 Environmental setting

The site is located adjacent to the River Ebbw in Cwmcarn in the East and a railway line to the West, north west of Newport. The site is irregularly shaped and is generally flat being at the bottom of the valley. The whole area of the site are surfaced an impermeable layer of concrete.

2.3.1 Watercourses

The whole site sits on an impermeable surface with a sealed drainage sytem. There is no run off to the adjacent River Ebbw or and discharge to a sewer.

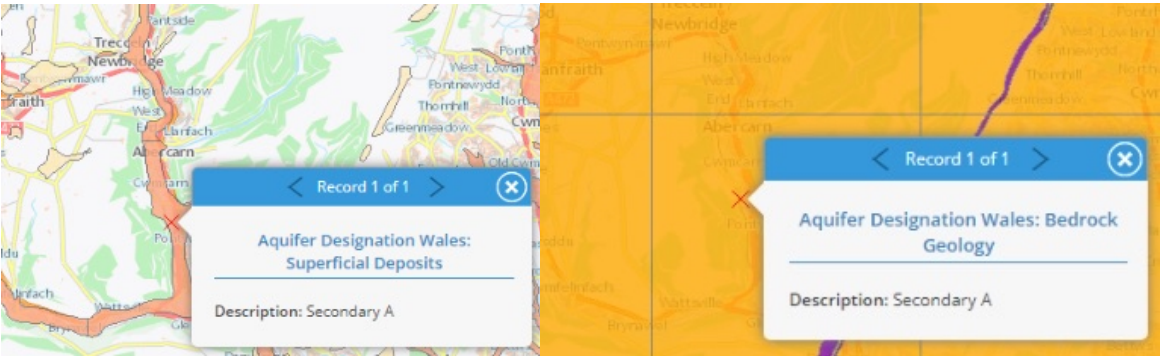
Figure 7 – Nearby Watercourse



2.3.2 Groundwater

According to the BGS Geoindex the site is underlain by a Secondary A Aquifer,

Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.



Waterbody ID	GB109056026910
Waterbody	Ebbw R - conf Ebbw Fach R to Maes-glas
Water Category	River
Catchment ID	11031
River Catchment	South East Valleys
River Basin District	Severn
Summary Document	More info
Waterbody Typology	Mid, Medium, Siliceous
Heavily Modified Waterbody	Yes
Overall Status	Moderate
Chemical Status	Fail
Ecological Status	Moderate
Expert Judgment	
Expert Judgment Source	
Biological Status	Moderate
Hydromorphology Status	Supports Good
Morphology	
Hydrology	Does not Support Goo
Hydrological Regime	
Group Waterbody IDs	
Overall Status Objective	Good Potential by 2027
Alternative Objective Reason	Disproportionately expensive, Technically infeasible

2.3.3 Human receptors

The area immediately to the East of the site is predominantly industrial in nature, with a residential area (Neport Road) further East past the Industrial area. There is also a housing development situated immediately to the North (Chapel Farm) of the site and could be affected by a plume in the event of a firm northerly wind.
Error! Reference source not found. illustrates the primary land uses in the surrounding area.

Figure 8 – Human Receptors



Figure 9: Wind rose for Cwmbran 2015-2017 (Nearest Weather Station)
Source – windfinder.com

Wind direction distribution in %

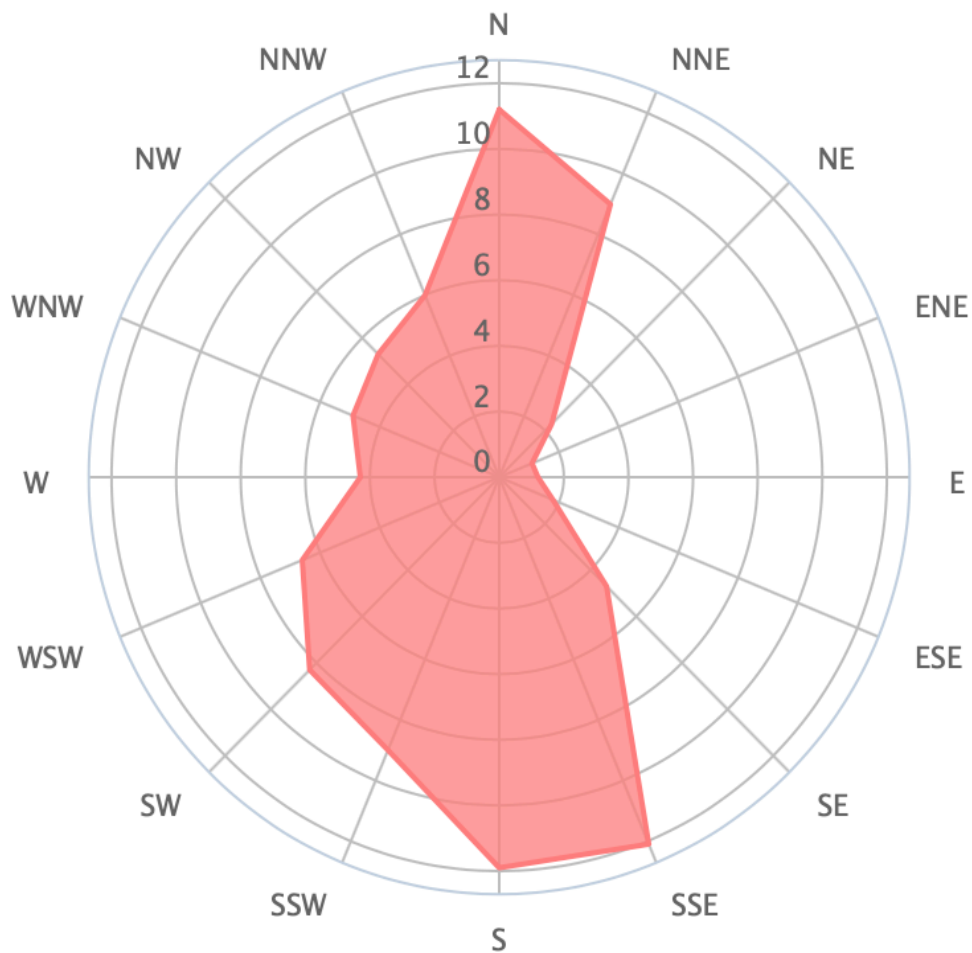


Figure presents wind rose data for the CwmCarn area. This demonstrates that the wind is likely to be blowing from directions that could impact upon the residents of Chapel Farm 10% of the time.

In terms of specific receptors of significance, Table 3 presents sites that have been identified as being of particular significance.

Table 3: Significant Human Receptors

Name of receptor	Direction from site	Distance from site
Newport Road Residential Area	East	215m
Chapel Farm Residential area	North	150m
Mechteck Engineering Consultancy	North East	70m
Winwood Porducts	East	50m
Ihearthhomes Limited	South East	100m
Cwmcarn Primary Schhol	East	150m

2.3.4 Waste volumes

Operations at the site are variable. The maximum waste material quantities allowed under the current Environmental permit are displayed in Table 4.

Table 4: Maximum permitted waste material quantities

Material	Maximum allowable quantity	Proposed increase
Permit DB3097TJ – Metal Recycling	75,000 Tonnes per Annum	170,000
Hazardous Waste	50 Tonnes at any one time	No Change
Permit DB097TJ – ELV Processing	75,000 Tonnes per Annum	No Change
Hazardous Waste	50 Tonnes at any one time	No Change
Hazardous Waste	10 Tonnes per day	No Change
Vehicle tyre waste (intact and shredded)	50 tonnes at any one time	No Change
Permit LB3093HH – WEEE storage and treatment	75,000 Tonnes per Annum	No Change
Hazardous Waste	50 Tonnes at any one time	No Change
Hazardous Waste	10 Tonnes per day	No Change
Permit LB3093HH – Waste transfer and Treatment	75,000 Tonnes per Annum	No Change
Treatment	50 Tonnes per day	No Change

source: Environmental Permits

Table 5 presents an overview of potentially combustible materials that may be stored on the site. Combustible materials will be stored on site for as short a period as practicable, normally less than 3 months, before being removed from site for off-site recycling, recovery or disposal. The maximum time materials will be stored will likely occur during the bank holidays when shredding or depollution will not normally take place, but waste can still be received.

2.3.5 Amendments to this Fire Prevention Plan

It is understood that the contents of a FPP must be approved by the Environment Agency. Any proposed changes to the approved Plan must be reviewed, and approved in writing, by the site's local Environment Agency officer prior to the changes being adopted.

Table 5: Overview of potentially combustible materials that may be stored on the site

Waste description	EWC Code	From	Daily tonnage received	Total tonnage stored at one time	Storage method
End-of-life vehicles (undepolluted)	16 01 04	Whole cars	5 - 10	10	Impermeable surface Stacked no greater than 2 high
End-of-life vehicles (depolluted)	16 01 06	Whole cars with required pollutants removed	150	200	Impermeable surface or hardstanding Stacked no greater than 2 high or placed on scrap metal heap awaiting processing
Clean ferrous scrap metal	17 04 05 and various other codes	Solid	150	1000	Impermeable surface or hardstanding
Mixed non-ferrous metals	17 04 07 and various other codes	Solid	20	100	Impermeable surface or hardstanding High value metals in building
Shredded ferrous metals	19 10 01	Solid, granular waste	250 Produced on site	2500	Impermeable surface or hardstanding
Shredded, mixed non-ferrous metals	19 10 02	Solid, granular waste	4 Produced on site	50	Impermeable surface or hardstanding
Fragmentiser fluff	19 10 04* (Mirror entry)	Solid, granular waste	75 Produced on site	150	Impermeable surface
Metallic packaging	15 01 04	Solid incl. baled drinks cans	0.5	2	Impermeable surface or hardstanding
Tyres	16 01 03	Solid	10 Produced on site	50	Impermeable surface, in container or in building
Batteries	16 06 01	Mixed solid and liquid	1 -2 Produced on site	25	Sealed heavy duty battery boxes on impermeable surface, or on pallets in building
Engine, gear and lubricating oils	Multiple*	From depollution and plant servicing	>1 Produced or used on site	2000litres	Barrels or tanks on impermeable surface with secondary containment
Diesel and fuel oil	13 07 01*	Liquid	1500 litres used on site	5000 litres	Barrels or tanks on impermeable surface with secondary containment
Petrol	13 07 02*	Liquid	>0.5 (negligible)	1000litres	Barrels or tanks on impermeable surface with secondary containment

3 Preventing fires

3.1 Sources of ignition

In order for a fire to start all three corners of the fire triangle, as identified in Figure 1, must be present: oxygen, heat and fuel. Preventing the addition of heat (i.e. an ignition source) to flammable material is therefore a basic control essential to prevent fire. The materials itemised in 6 have been identified as those that could potentially be ignited by an external source. Table 7 identifies potential sources of ignition on site. It also identifies in which section of this report that each potential ignition source is discussed.

Table 6: Identified flammable materials

Flammable materials	Notes
Waste fuels (petrol and diesel)	From the depollution activity
Waste oils (from vehicles)	From the depollution activity or plant maintenance
Flammable chemicals	From general site activities
End-of-life vehicles (undepolluted)	Prior to depollution
End-of-life vehicles (depolluted)	After depollution
Fragmentiser fluff	From the shredder operation
Tyres	Stored undercover, where possible
Batteries	Stored in appropriate containers
Oils	Delivered oils for site use
Diesel	Delivered diesel for site use

Table 7: Potential ignition sources

Ignition source	Section of report	Cause
Smoking/ naked lights	section 3.2.1	Discarded smoking materials, not extinguished adequately
Electrical installations	section 3.2.2	Plant and equipment failure, damaged or exposed electrical cables, friction during shredding
Electrical discharges from batteries	section 3.2.4	Flammable materials coming into contact with battery terminals
Arson/vandalism	section 3.2.5	A deliberate act of starting a fire
Hot waste	section 3.2.6	Incoming loads or storage of wastes
Sparking	section 3.2.7	From metallic tools such as during sweeping or dragging of metal buckets. Causes a spark within a flammable atmosphere, such as that may arise in the depollution shed.
Electrical faults	section 3.2.2	Sparks from faulty/exposed wires or overheating/overloading of plug sockets
Hot works	section 3.2.3	Heat/flames from welding or hot cutting
Self-combustion of shredder residue	section 3.4	Light fraction heating up due to the nature of the material
Chemical reactions	section 3.2.10	Mixtures of lead acid batteries and non-lead acid batteries and different acid mixtures together
Explosion	section 3.2.8	Caused by incompatible materials being stored, acceptance of gas bottles, shredder explosions
Hot exhausts	section 3.2.9	From site plant and machinery

Ignition sources have been isolated/removed so far as reasonably practicable from all areas at risk of fire becoming established. Removing/isolating these ignition sources eliminates the risk of a fire starting.

3.2 Fire prevention methods

Health and Safety Risk Assessments (HSRAs) have been undertaken for procedures undertaken at site, which identify fire hazards and control measures. The HSRAs can be found in Appendix C and cover:

- Welding operations;
- Hot works;
- Storage and disposal of gas cylinders;
- Removal of LPG tanks;
- Management of contractors; and
- Fire-fighting.

It has been identified that there is a relative higher likelihood of fires igniting in the following areas:

- Depollution area;
- Battery storage area; and
- Fragmentiser fluff storage bay.

Below are details of how interactions between the potential ignition sources and flammable materials are being actively controlled.

3.2.1 Smoking

No smoking is permitted at the site. However, there is a designated smoking area, which is outside the site and identified in **Error! Reference source not found.** at the muster point.

3.2.2 Electrical installations and faults

All site electrics are installed and maintained by qualified third-party electricians, who are retained on a contract basis, with 5-yearly checks carried out on electrical installations to ensure that they are working correctly and that there are no damaged or exposed wires that could cause a spark. Such installations are secured to prevent unauthorised access by unqualified personnel. In addition, these circuits are visually checked on a weekly basis by senior management.

Daily checks are undertaken, by trained site operatives, of plant and equipment to identify any potential issues using check-sheets prior to starting equipment. Any issues identified are recorded in the site diary or log and raised to senior management as soon as possible and actions taken to rectify them.

In addition, all plant undergoes standard manufacturers' recommended servicing. This servicing is conducted either in-house or by the relevant competent contractor.

Portable electrical equipment shall be maintained in a safe condition in accordance with the Electricity at Work Regulations 1989, with any equipment that appears to be unsafe removed from service for repair or replacement. The company employs PAT testing on an annual basis to all portable appliances on site. In addition, staff using the portable equipment have been instructed to carry out pre-use checks on the equipment to check for signs of fault such as exposed wires.

Generators are maintained and are serviced in-house every 500 operating hours to ensure they remain safe and fit-for-purpose. Servicing is recorded in the generator log-books.

3.2.3 Hot works and metal cutting

During the shredding of metal considerable heat, sparks and smoke can be generated. In order to prevent overheating, the shredder should only be operated in accordance with manufacturers' instructions. The shredder is fitted with a water spray system for dust suppression. A sprinkler is fitted at the outfeed of the shredder. In the event that a fire arises in the shredder the sprinkler is designed to suppress the fire. The site's shredder is also sited some distance from flammable stockpiles and enclosed in a noise reducing barrier.

Oversized metal is cut using standard acetylene cutting equipment. During cutting, sparks are generated that could cause flammable materials to combust.

Cutting is only carried out in designated areas in and around the metal reception area, which are more than 6 metres from any flammable stockpiles. When deciding on a location the operative considers the wind direction. In the event of a strong wind blowing toward stockpiles then another, safer location shall be chosen for this work.

To mitigate fire risk during metal cutting and other hot works:

- only trained authorised people are permitted to perform hot work operations;
- all tools are to be inspected prior to use, including PATs for electrical hand tools.
- only 110V supply electrical hand tools shall be permitted on site.
- hot work areas are cordoned or screened off accordingly to prevent access by unauthorised persons.
- all flammable or combustible materials shall be removed from the hot works area before hot works commence;
- the correct type of serviceable fire extinguisher or fire-fighting appliances shall be made available at the immediate location of the hot works.
- A competent person shall stand by with the extinguisher or fire-fighting appliance while the hot works are in progress and shall watch the works to control potential outbreaks of fire during and immediately after the hot works are complete;

A Permit-to-Work (PTW) system is established at site and shall be used for all hot-works. This is controlled by appropriate supervision, training at induction and application of the relevant safe working procedures

3.2.4 Electrical discharges from batteries

When depolluting ELVs, it is important to remove batteries in a manner that mitigates the risk of sparking. Within depollution buildings there may be stored petrol and other flammable fluids that could be ignited by a spark.

ELV depollution staff will be fully trained in the safe dismantling and removal of components and fluids. This includes ensuring that the negative terminal of any battery is disconnected from the vehicle thereby removing the risk of any short circuit. Staff are required to remove metal objects from hands, wrists & neck e.g. rings, bracelets, watches & necklaces prior to disconnection and shall not place tools or metal objects near to or on top of the battery.

Batteries are stored in specifically designed containers which are labelled, resistant and leak proof. Different types of batteries stored separately (e.g. lead acid batteries are separated from nickel-cadmium batteries). The containers are stored in a building 6m away from other metals.

3.2.5 Arson

Preventing unauthorised access to the site is key to minimising the risk of arson. The site operates a full security system including CCTV cameras, alarms and is fenced off from public areas. Gates are also locked out-of-hours. The CCTV system is monitored 24 hours. Further details on site security can be found in section 3.3.3.

3.2.6 Hot waste

On occasions, inappropriate waste may be accepted within large waste containers or vehicles. By ensuring that all vehicles tip out into the reception area before metal is pushed up into the metal stockpile, site operatives have the opportunity to identify any unusual waste that may not be authorised by the permit or could show evidence of smouldering.

Staff are trained to notify the yard manager in the event such material is identified and not to put this through the shredder.

Non-conforming or otherwise dangerous waste will be isolated within a separate sealed container and stored away from stockpiles, or, if safe to do so, reloaded back onto the discharging vehicle and removed from site. If appropriate, sufficient water will be added to remove the heat from such waste.

3.2.7 Sparking

The depollution area has been designated as a Dangerous Substances and Explosive Atmospheres (DSEAR) zone 2 under the DSEAR Regulations. This means that only non-sparking tools are permitted to be used in the area. The tools in the depollution area all run on air (pneumatic) to reduce ignition risk.

3.2.8 Explosion

There is a potential for explosion, if foreign objects (e.g. fuel tanks or gas bottles) are inside ELVs when they are shredded. The risk of explosion shall be mitigated by inspecting incoming waste streams. Site operatives shall inspect whole incoming ELVs for evidence of incomplete depollution or foreign objects. Potentially explosive containers are removed from vehicles prior to shredding. If the containers are identified as pre-treated to remove all hazardous contents, they shall be considered safe to shred.

No explosive materials are stored within buildings. Each building on site has fire extinguishers located inside. Fire suppression systems are not required due to this. Smoke alarms are present on the site in the Office.

3.2.9 Hot exhausts

The mobile plant operation shall exhaust hot gases to air. The areas in which mobile plant idle and the static shredder is located shall be inspected by a competent member of staff on a daily basis by site management using a check sheet to identify any flammable materials in the vicinity and to remove these materials.

3.2.10 Chemical reactions

Fluids from ELV depollution are stored in explosion-proof tanks which are double-skinned and stored in a bunded area.

3.3 Other related procedures

3.3.1 Signage

Signage is present where appropriate throughout the site (near extinguishers, emergency exits, etc). Examples of such signs are shown in Figure 10, 11, 12 and 13.

Figure 10: Fire action sign, and fire marshal list



Figure 11: Typical fire extinguishers mount and signage

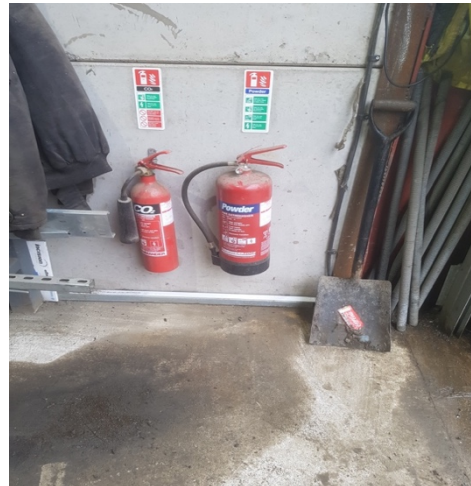


Figure 12: Marshall Certificates



Figure 13 : Site entrance signage and Muster point



3.3.2 Visitors

Upon arriving at the site, all visitors must report to the weighbridge office to be booked in. Customers delivering scrap metal are directed to the relevant waste reception area where site staff supervise all movements of vehicles and people. The site's no smoking policy is strictly enforced by site staff, with visitors who fail, or refuse, to comply being asked to leave the site.

Other visitors are escorted around the site at all times, unless they have received formal induction into all relevant site procedures prior to them commencing work. This includes any contractors who may be undertaking hot work.

3.3.3 Security

Access to the site is controlled by locked out of hours gates. A remote CCTV system is in place to monitor the premises at all times. An out of hours monitoring company called Secure IT is contracted, if there is a break in or a problem, they contact the emergency services first and then the site manager. There are cameras in the office as well as 16 cameras positioned on the site.

3.3.4 Storage of wastes

3.3.4.1 All materials

All materials, except for the ferrous metal scrap pile, are stored in walled bays and the material is stored below the height of these bays. This ensures that were a fire to start, it would be prevented from spreading from bay to bay and thus prevent establishment of a fire on site. If a bay becomes full then another bay is used to stockpile the material until capacity becomes available again.

3.3.4.2 Combustible materials

Combustible materials, such as undepolluted ELV and batteries are stored a minimum of 6 metres away from other materials. The use of these fire breaks (separation distances) will help to prevent an established fire from spreading.

In order to ensure that no combustibles etc. are placed within the ferrous and non-ferrous stockpiles, the site has a waste acceptance procedure. This involves the material coming into the site being visually checked by site staff and any combustibles etc. being removed before the material is stockpiled. Combustible materials are then stored in the quarantine area or loaded back onto the customer for them to dispose of. This is how the site ensures no combustibles are present in the ferrous and non-ferrous stockpiles.

3.3.4.3 Storage areas - general

Capacity of the bays is monitored visually on a daily basis and via regular inventories, by the site manager.

Each bay is designated for a specific material to ease the sale of material and also prevent contamination of the metal grades. After material is tipped, it is inspected by site staff and anything that is not of the grade is removed. The material is then deposited into the designated bay.

All material is stored below the heights of the walls and no material is stored on top of the walls so fire spread via bridging is minimised.

The site accepts limited quantities and types of WEEE. This stockpile is maintained significantly below the maximum limits specified in the Environment Agency's Fire Prevention Plan (FPP) guidance (November 2016). This material is also stored in a walled bay so the risk of a fire spreading is extremely low.

There is no mention specifically to any other scrap metals, so there is nothing to limit our stockpile sizes for fire prevention purposes. Nevertheless, all material stored on site that is not stored in a bay has a separation of at least 5 metres.

The ferrous stockpile can, on occasions, exceed the guidance height and volume stated for 'other materials'. This metal is clean i.e. there is no plastic or hydrocarbons or combustibles present within it. Metal on its own by its very nature does not catch fire so the risk of a fire starting within the stockpile is non-existent.

3.3.5 Maintenance and inspection

An inspection is carried out on a weekly basis, every Monday, using an inspection inventory sheet. This inspection includes confirmation that all extinguishers are present, and in date, all signage is present and legible, the fire assembly point is clear and accessible, and all areas of the facility are clean, well lit, secure, and pest free. Each area of the site has a separate set of required checks, based on its individual fire risks, the waste materials stored there, the equipment present, and the activities carried out. Inspections are carried out by the yard manager, and/or the site compliance assistant.

3.3.6 Fire extinguishers

An extensive array of fire extinguishers is available across the site and designated fire wardens (their names and locations are displayed on the site notice board) to aid in the safe evacuation of staff, customers, visitors, and contractors. These extinguishers are checked daily to ensure that they are present in the designated areas and in working order (see site plans). If the extinguishers are damaged, then they are taken out of service and replaced immediately. They are serviced annually and every 5 years are discharged.

3.3.7 Fire watches

An appropriate site manager carries out at least one inspection of the site each day. During this inspection, any non-conformances or potential fire risks are identified (e.g. poor housekeeping, unacceptable separation distances) and action is taken to ensure that these are remedied immediately by passing instructions to the yard manager. A record of such inspections is made in the site log. A 30-minute inspection is also made after the plant is shut down each day.

After the machines have been shut off, there is a 30-minute cool down period which involves an inspection of the site. During the cool down procedure of the mill, water is continuously run through the plant.

3.3.8 Smoke/heat/flame detection

A fire watch radio system is in place to detect any active fires on the premises. The radios are how communication is made with all site personnel, whether it is office, operators, Crane drivers etc.:

List of radio's as follows:

Qty 1 - Main office at weighbridge

Qty 1 - Mobile radio Site Manager

Qty 6 - Microphones fixed in cabins of crane drivers, microphones have been fitted to speak direct for H&S reason as hand held radios cannot be used.

Qty 1 - Loading Shovel

Qty 1 - Mobile Radio Banksman

Qty 1 - Mobile Radio Metal Bay

Qty 1 - Mobile Radio Depollution Bay

Qty 2 - Mobile spare Radios

This allows facilitation of emergency procedures/evacuation of the site. The telephone number of a site responder is featured on the site gates, to allow easy access of emergency personnel and vehicles.

3.3.9 Separation distances

Separation protocols, and storage distances are included in site induction training, and associated material. These policies are also included in site health and safety training.

3.3.10 Quarantine area

A quarantine area is designated as per the plan. UK regulations state that a quarantine area must be able to hold at least 50% of the largest ELV stockpile/row or container on the site, and must have a separation distance of at least 6m around the quarantined waste. Multiple quarantine areas are permitted, however at least one must be clear of debris, and ready for use at all times (unless it is currently being used to store burning material in event of fire). Quarantine areas may be used for temporary storage of wastes when necessary, but must be able to be cleared as quickly as practicably possible in event of fire (1 hour maximum clearing time).

A stand-alone quarantine area of 150m² has been set aside, which is not located near to any machinery or equipment. The area is situated 10m away from any building on the boundary between the Metal Recycling. A secondary area of similar size is also located nearer the shredder infeed pile. Locations on Figure 3 – Site Layout and Material Storage Location

3.4 Self-combustion

3.4.1 Inventory of self-combustible materials

Some materials can self-combust under certain conditions. According to Environment Agency's FPP guidance, the risk increases when materials are stored in the maximum pile sizes for more than 3 months. Materials which are at risk of self-combustion, that are applicable to the site include:

Table 8: Inventory of self-combustible materials

Material description	EWC code (if relevant)	Notes
Tyres (whole)	16 01 03	Stored indoors
Frag fluff	19 10 04	
Undepolluted vehicles	16 01 04*	
Materials with exposed rust etc	16 01 17/16 01 18	

3.4.2 Control measures in place for identified self-combustible materials

3.4.2.1 Tyres (whole)

Tyres are not stored on the site for longer than is necessary to allow a viable collection. Depolluted cars have already had tyres removed prior to arriving at the site. However, upon commissioning of the site's ELV Depollution area, tyres will occur on site. Tyres generated as a result of specific site activities e.g. depollution, will be stored in the site's metal storage shed. The site will have a collection from a registered tyre recycler no less than monthly intervals.

Discarded tyres may also be received from on-site vehicles, though the vehicle service contractor generally removes these.

Maximum pile size

Tyres will be stored in stacks, no greater than 1.5 metres tall. Storage within the building will be along a designated wall. Tyres will be routinely collected but, in the unlikely event that a

larger than normal quantity accumulates (for example should a collection be missed) then the maximum pile dimensions will be no more than 15 metres or 30 tyres in length (whichever is the lesser) and 1.5 metres / three tyres deep.

Separation distance

In the extremely unlikely event that this pile size is not sufficient for the site's storage needs, then a new pile of identical maximum dimensions will be started no closer than six metres from the original pile.

Failure of third-party tyre collectors

It is not envisaged that the storage piles of the sizes noted above will ever be required. However, unforeseen events such as unreliable contractors could potentially lead to such incidences. If it becomes clear that the company's approved tyre collector is, for whatever reason, unable to provide the necessary service, and storage piles are getting excessively large, then tyre removal from vehicles (i.e. full depollution) will cease pending the appointment of a new contractor.

Self-ignition sources

Tyres will be kept shaded from sunlight that can lead to breakdown and self-combustion. No shredded tyres will be stored on the site.

3.4.2.2 Fragmentiser fluff

Fluff is residual waste from the metal shredding process. It consists of granular fines and contains a mixture of fibres, plastics, residual metals and other non-metallic waste that has not been removed by the process. There is potential for fluff to be contaminated with hydrocarbons where waste acceptance and treatment controls have not been applied properly. As the light fraction is produced, it is pulled to the front of the bay to allow the other material to collect. This way the oldest material goes out first.

The material is stored in a walled bay and the material is stored below the height of this bay. At any one time, there is no more than 82m³ (50 T) stored per day (equating to 2 loads). The site has a dedicated contractor that can be called upon at short notice if the material is approaching the maximum height or if more than 2 loads are present. Up to 3load can be produced every day and these are removed from the site on a daily or twice-daily basis. As the material is not stored for longer than 3 months on site at any one time then, according to the FPP guidance, the risk of self-combustion is reduced.

As a granular material with organic content, fluff has the potential to self-heat if left for prolonged periods, as a result of microbial action upon the waste.

Material of this nature is turned daily, moving material from the back of the bay to the front, by the site cranes to prevent heat build-up. By turning the material on a daily basis, clearing it on a daily or twice-daily basis and storing within contained limits the heat build-up within the material pile to the extent that the risk of self-combustion occurring is negligible.

Maximum pile size

There is a requirement to stockpile fluff in order to produce an adequately sized load for economical haulage from site. Fluff can also be reprocessed to extract additional metals (i.e. value) from the material.

The maximum height of fluff piles stored at the site shall be no greater than four metres. The maximum length of any one pile shall be 20 metres, with no more than 235m² of floor space taken up by each pile.

For fragmentiser fluff, the stockpile is maintained significantly below the maximum limits specified in the FPP guidance in all respects. This material is also stored in a walled bay so the risk of a fire spreading is extremely low.

Figure 14: Fluff stockpile



Source: Mott MacDonald

Separation distance

A separation distance shall be retained between each individual pile of fluff. This distance shall be no less than six metres.

Control of Self-ignition sources

Whole bales or un-depolluted cars are not shredded, so the likelihood of an explosion occurring is extremely rare. However, in the event of a fire, the operator or any operatives should immediately contact the yard manager and stop scrap from being fed into the machine. Material should be removed from the shredder and closely inspected; if fire or smouldering is detected then it should be promptly extinguished.

Each pile shall be managed on a first-in first-out basis, with the oldest fluff either treated or disposed of first. This stock rotation shall ensure that no fluff is stored on the stockpile for longer than is necessary and certainly no longer than three months. In routine operation fluff will be led from site no less than once per week.

The risk of self-ignition will be monitored by the yard manager, who carries out a daily visual check of the stockpiles, in order to identify any high-risk areas that may cause a fire. Any identified issues are dealt with immediately and reported to the site manager and logged in the site diary.

Due to the high frequency of waste removals at the site, a thermal probe is not considered necessary.

In frag fluff, hotspots may occur as microbes consume organic material within the waste pile. Generally, upon reaching 70-80°C, such microbes will die and further temperature escalation relies on chemical oxidation occurring within the waste pile. The presence of small metal fragments and other potential reagents within the stockpile increases the risk of these chemical reactions occurring over, for example, a pile of purely organic waste.

Dry matter in the centre of piles, where rainwater has not percolated through, can also provide opportunities for smouldering areas to occur at lower temperatures that may ignite when the pile is dug into, exposing the material (i.e. the fuel) to atmospheric oxygen.

Control levels

GLJ Recycling Limited has identified control levels at which action is necessary to reduce the risk of self-combustion (or combustion when piles are dug out). These are specified in 9.

Table 9: Control levels for fluff pile properties

Property	Control level
Temperature (max)	65°C
Moisture (min)	40%

Where temperature exceeds the control level, one of the following actions will be taken, depending on the specific situation:

- Digging out the hotspot and placing the material into a smaller pile no less than six metres from existing stockpiles for separate monitoring
- Turning the stockpile to bring warmer material to the surface
- Immediate removal and treatment/disposal of the risky material
- Damping down of affected areas (if appropriate)

Where moisture content in the pile is below the control level, but temperature remains low throughout the pile, the pile shall be turned to bring drier material to the surface.

Where moisture and temperature are both outside their control levels, the dry area shall be exposed and wetted, with the at-risk material removed and separated from the remainder of the stockpiled waste. This work shall be carried out with a full water bowser at hand to apply water throughout the process, so as to minimise the risk of ignition during the time when the pile is opened.

3.4.3 Undepolluted vehicles and materials with exposed rust

The oxidation of metals produces heat and therefore is considered to be a potential ignition source. FPP guidance state that measures must be taken to “reduce the exposed metal content or proportion of ‘fines’ within the waste”.

In order to minimise the exposed metal content or proportion of ‘fines’ within the waste, trommels will be used to remove up to 49% of the waste in a 0-20mm fraction. The waste will then be conveyed to a magnetic drum which removes the ferrous metals from the waste stream, before it is transferred to an eddy current separator to extract the non-ferrous metals. The waste that remains is stored separately to the 0-20mm fraction before being sent to landfill.

The control measures identified in sections 3.3 and 3.4 ensure that the likelihood of a fire occurring is reduced significantly and it would be extremely rare for a fire to occur on site.

3.5 Detecting and suppressing fires

3.5.1 Fire detection systems

The site is fully equipped with fire extinguishers in identified ‘at-risk’ areas around the site’s offices and processing areas. The location of these extinguishers is displayed in **Error! Reference source not found.** These extinguishers are serviced and replaced in accordance with manufacturers’ recommendations by a third-party fire safety contractor.

Site supervisors carry out daily walkovers of the site to check a range of operational and compliance issues. End-of-day checks ensure that the site is being left in a safe and secure condition including:

- All equipment is properly shut down

- Absence of leaks and spillages from the day
- Security systems are in working order
- Visual check of all material stockpiles during the Fire Warden walkover
- Full site shutdown procedure, with 30 minute fire watch period.

The start-up and shutdown procedure for the shredder is shown in Appendix C.

3.5.2 Fire suppression systems

The shredder already has a water injection system to control dust, this will be set to maximum in an event of a fire A sprinkler system is fitted on the outfeed of the shredder and up the length of the first outfeed conveyor.

The ELV storage area is an outdoor covered area. It does not feature any dedicated fire prevention systems, but is equipped with fire extinguishers.

3.6 Appropriate containment and mitigating measures

All potentially combustible waste piles are stored on impermeable surfacing that drain to sub-surface interceptor (25,000 litres) and two above ground storage tanks (2 x 30,000 litres). In total 85,000 litres of sequential storage tanks are available to store surface water, though not all of this capacity will be available due to the tanks storing residual amounts of routine surface water.

There is no drainage off site, is a sealed system. This allows the fire water to be pumped out. A waste water company is contracted with a 24 hour callout. In the event of a fire breakout, these will be contacted immediately after the fire services for emptying of waste water tanks if necessary.

3.7 Piles and separation distances

Throughput will be managed to keep pile sizes below the recommended sizes. Separation distances will be applied; these are summarised in 10.

Table10: Maximum pile sizes and minimum separation distances

Material	Max height (m)	Length / width (m)	Max Vol (m ³)	Max area (m ²)	Minimum separation
Tyres	5	20	450	235	6
Frag fluff	5	20	750	235	6

Materials should be appropriately stored within buildings and separation distances maintained from flammable or combustible materials on site (e.g. gas cylinders, aerosols and fuel tanks).

3.8 Pile layout

All piles should be appropriately located and clearly indicated on the site plan.

3.9 Seasonality and pile management

Stockpiles of waste at this site are not unduly affected by seasonality. The main risk that may lead to stockpiling would be plant failure, rather than seasonality.

Seasonality occurs when there are commercial advantages to occasionally stockpiling ferrous and non-ferrous metals during times of low commodity values. However, the disposal costs for frag fluff and the other, less significant combustibles stored on site remain reasonably constant.

The aim of the process is to keep material flowing through the site to minimise the space used by unprofitable material.

3.10 Managing fire water

The focus at this site is fire prevention. The control measures mentioned above should be taken into account when calculating estimated firewater volumes.

Should a fire break out, it is unlikely that this would impact more than a single stockpile or stored combustibles. The justification for this is that such a blaze during working hours would be quickly spotted by site staff and the emergency services called, with site staff isolating affected areas immediately. Fluff stockpiles are also kept remote from other combustibles such as fuel storage and the small tyre store, so these would remain unaffected by such an incident.

Out-of-hours, it is unlikely that, without arson causing multiple stockpiles to ignite simultaneously, a self-combusting heap of fluff would ignite to the degree that the flames would jump the separation distances employed.

It has been discussed with the fire services regarding a connection from the gate near Northern end of the yard gate, coming down the yard towards the new shredding plant. This will allow the Fire service to connect a 100m hose from a hydrant in Cwmearn Terrace to this point and then be able to connect a hose right next to plant. This is in addition to the other available hydrant located at the roundabout near the main entrance of the yard. This will give ample fire fighting water supply.

GD Environmental – Newport 24hr ring for standby with fire service

If subsurface/above ground storage capacity is exceeded (including tinkering), the remainder of the firewater runoff would be retained on the concrete surface of the site by the engineered gradient of the surface.

Prior to storage capacity being exceeded, site manager would contact the local tinkering contractor in to empty the stored water from the site's above ground storage tanks.

3.11 Water supplies

Adequate water supplies must be available at all times in case a fire breaks out.

There are no hydrants within the boundaries of the site, but there is one nearby. One is located on the A467 roundabout at the entrance of Chapel Farm Industrial Estate, as shown in Figure 6a and 6b.

The River Ebbw runs alongside the site as shown in Figure 7.

3.12 Waste acceptance procedures

Upon arrival of any waste at the site the amount of waste is weighed. For individual items of non-ferrous metal being delivered directly to the non-ferrous building (e.g. copper tanks) the waste producer comes to the site office and the item(s) is weighed using scales at the front of that building. Otherwise, the vehicle drives onto the weighbridge upon arrival and a gross weight is recorded.

All waste coming from commercial premises must be accompanied by a waste transfer note and this is inspected to ensure it matches the load of waste being delivered. Visual inspection will be carried out by the weighbridge operative where the waste can be seen from the adjacent office. The vehicle then proceeds to the correct area of the site for that waste stream to be tipped.

If the waste arrives in a sealed or high-sided vehicle, inspection will be carried out by the operative supervising the waste as it is tipped in the yard.

When the vehicle leaves site it is weighed again and the net weight of waste calculated, and a receipt issued.

For scrap metal deliveries, the following information is recorded in the company's database:

- the description of the metal, including its type (or types if mixed), form, condition, weight and any marks identifying previous owners or other distinguishing features;
- the date and time of its receipt;
- if the metal is delivered in or on a vehicle, the registration mark of the vehicle
- if the metal is received from a person, the full name and address of that person;
- the full name of the staff member making the payment to the customer.

If the metal is received from a person, the staff member responsible for accepting the waste must keep a copy of any document used to verify the name or address of that person.

Where metal is paid for by cheque, the staff member responsible must keep a copy of the cheque.

Where metal is paid for by electronic transfer, the staff member making the payment must retain the receipt identifying the transfer, or otherwise record details that would identify the transfer.

If it appears that the waste does not comply with the description on the waste transfer note, or that it may be hazardous or otherwise not acceptable under the site's permit, then the waste will either be re-loaded and rejected.

3.13 Response during incident

An 11 step fire-fighting procedure will be employed at the site. This consists of:

- After hearing an explosion, the shredder in-feed operator is to stop feeding the shredder and is to run the conveyor back several meters and activate the suppression system.
- After hearing an explosion, the pickers are to evacuate the picking shed and make their way to the assembly point.
- The Fire Service should be informed immediately, either by switchboard operator or person discovering fire, dependent on conditions.
- If required, the emergency controller will inform an ELV operator to close (not lock) the incoming/entrance gate and wait at the exit gate to direct traffic & the emergency services if they are needed. The in-feed shovel driver / banksman will safely instruct the removal of lorries from the in-feed area as soon as practicable.
- The in-feed scrap handlers will drive to a safe position if possible (if not possible leave on foot via a safe route) and assemble in the canteen.
- All maintenance personnel are to assemble at the assembly point.
- The fire marshals will carry out a roll call / head count.
- The fire marshals will form teams of 2's and 3's and instruct them on their areas to check.

Note: Correct PPE must be worn: - safety helmet, safety 'rigger' style boots with steel mid-sole, 'Rigger' gloves, high visibility clothing (flame retardant), overalls, hearing protection, goggles / eye protection, face mask (P3 filter).

- Good communication to be kept between fire marshals via radio, the fire coordinators will contact the ferrous yard for them to remove non-essential personnel from the area (Operatives working in the areas adjacent to the shredder e.g. burning area).
- Fire marshals will issue an end of dampening operations instruction or order evacuation of the site via radio communication.
- Employees must not return to the site until the Fire Service have instructed that it is safe to do so.

The NRW will also be informed of a fire at the site, as soon as it is practicable to do so.

3.14 Post incident procedure

All equipment will be washed down. The yard surface will be jet washed and drained towards the interceptor, and an appropriate Registered Company will be hired to transport the waste away. All fire extinguishers and water stations will be refilled and buckets returned to positions at water stations in the main yard area.

If a fire incident was to occur, then an internal investigation into what happened will be conducted and steps will be taken to prevent another similar incident from occurring by either modifying or supplementing procedures and the way staff operate. Operatives will be provided with the necessary information and training in order to learn from an incident and prevent it from happening in the future.

All HSRA's will be reviewed and updated as necessary, following any fire incident or near miss.

Appendices

A. Gareth Jones - Certificates



Continuing Competence Certificate

This certificate confirms that

Gareth Jones

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 25/03/2019

WEEE Waste Electrical and Electronic Equipment

Expiry Date:
25/03/2021

Verification date: 21/03/2019 Learner ID: 105923
Authorised: Certificate No.: 5140741
Date of Issue: 25/03/2019



WAMITAB Chief Executive Officer



CIWM Executive Director



The Chartered Institution
of Wastes Management



00144093



Continuing Competence Certificate

This certificate confirms that

Gareth Jones

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 19/02/2019

TSNH	Transfer - Non Hazardous Waste
MRS	Metal Recycling Sites
ELV	End-of-Life Vehicles

Expiry Date:
19/02/2021

Verification date: 12/02/2019

Authorised:

Learner ID: 105923

Certificate No.: 5139209

Date of Issue: 19/02/2019

A handwritten signature in black ink, appearing to read "Gareth Jones".

WAMITAB Chief Executive Officer

A handwritten signature in black ink, appearing to read "C. Murphy".

CIWM Executive Director



The Chartered Institution
of Wastes Management



00131037

B. Health and Safety Risk Assessments

Risk Rating Matrix (RR)	Likelihood (L)		
Severity (S)	Certain or near certain to occur (High)	Reasonably likely to occur (Medium)	Unlikely to occur (Low)
Fatality; major injury or illness causing long term disability (High)	HIGH (H)	HIGH (H)	MEDIUM (M)
Injury or illness causing short term disability (Medium)	HIGH (H)	MEDIUM (M)	LOW (L)
Other injury or illness (Low)	MEDIUM (M)	LOW (L)	LOW (L)

Figure: 16



GENERAL WELDING
Risk Assessment Number: RA008

Assessor: Coleen Andrews
Revision Assessment Due:

Approver: Garteth Jones
AUGUST 2019 (unless significant change)

Action Status: LIVE
Revision Number: 1

Created: AUGUST 2019

Identified Risk				Residual Risk		
Item No.	Hazard Identification	Hazard Potential & Consequences	People at Risk	Risk	Control Measures	Risk
1	Being burned by spark / ray whilst welding	Minor Injury	Operator Anyone in the vicinity	12 MEDIUM	Only trained operators should use this equipment, on the job training supervised. All PPE is to be worn at all times including face mask and overalls when welding.	6 LOW
2	Electric Shock	Minor Injury	Operator	12 MEDIUM	All equipment is checked prior to use any faults reported immediately, hot work permit used, advised to keep hands dry.	6 LOW
3	Fumes from Welding	Minor Injury	Operator	12 MEDIUM	Activity takes place in well ventilated areas or out in the open, COSHH assessments and file available.	6 LOW
4	Manual Handling	Minor Injury	Operator	12 MEDIUM	Training on manual handling is now part of induction process. Mechanical aids are available for use.	6 LOW
5	Explosion & Fire	Major Injury	Operator Anyone in vicinity	12 MEDIUM	Site fire plan put into effect and fire extinguishers available, trained fire crew, explosion procedure in use and investigation process is carried out monthly fire check in accordance with company policy, hot work permit used. Equipment check done before use.	6 LOW
6	Vibration from use of grinder / cutter	Minor Injury	Operator	6 LOW	Short duration of trigger use. Supplied with anti vibration gloves. SWP on use of grinder / cutter	2 VERY LOW

Figure: 17



GAS CYLINDER DISPOSAL
Risk Assessment Number: RA014

Assessor: Coleen Andrews

Approver: Gareth Jones

Action Status: Live

Created On: AUGUST 2019

Revision Assessment Due: AUGUST 2019 (unless significant change)

Revision Number: 1

Identified Risk				Residual Risk		
Item No.	Hazard Identification	Hazard Potential & Consequences	People at Risk		Risk	Control Measures
1	DISPOSAL OF GAS CYLINDERS EXPLOSION	FATALITY BACK PROBLEMS	YARD OPERATOR		20 HIGH	<ul style="list-style-type: none"> No smoking or naked lights in area. Area is free of drains, underground pits etc. Gas is vented in the open air. Cylinders are rolled into position and not lifted. Cylinders are moved by fork lift truck or crane to shear. Cylinders are stood upside with tap open to release gas residues. Rubber mallet used to remove valve.
						4 VERY LOW

Figure: 18



REMOVAL OF LPG TANKS FROM VEHICLES

Risk Assessment Number: RA015

Assessor: Coleen Andrews

Approver: Gareth Jones

Action Status: Live

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Identified Risk				Residual Risk			
Item No.	Hazard Identification	Hazard Potential & Consequences	People at Risk		Risk	Control Measures	Risk
1	EXPLOSIONS OF LPG	MAJOR INJURY FATALITY	YARD OPERATOR VISITOR CONTRACTOR PUBLIC		25 V HIGH	<ul style="list-style-type: none"> Operators are trained in the removal of LPG tanks No smoking or naked flames permitted in work area Vehicle battery to be removed before removing tank Isolation of gas supply to completed before disconnection of pipes Tanks are to be removed in an open area not within buildings Safe working procedure provided to operators 	5 VERY LOW
2	Asphyxiation from inhalation of LPG	MAJOR INJURY FATALITY	YARD OPERATOR		20 HIGH	<ul style="list-style-type: none"> Tanks are to be removed in an open area not within buildings Operators are trained in the removal of LPG tanks Safe working procedure provided to operators 	4 VERY LOW
3	MANUAL HANDLING OF TANKS FROM VEHICLES	MINOR INJURIES, SPRAINS & STRAINS	YARD OPERATOR		8 LOW	<ul style="list-style-type: none"> Safe working procedure provided Operators are training in manual handling If required removal of tank to be two man lift 	4 VERY LOW
4	CONTACT WITH LPG	MINOR INJURIES, DAMAGE TO HANDS/FINGERS	YARD OPERATOR		12 MEDIUM	<ul style="list-style-type: none"> Safe working procedure provided PPE provided to operator 	4 VERY LOW

Figure: 19



FIRE FIGHTING

Risk Assessment Number: RA020

Assessor: Coleen Andrews
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Revision Number: 1

Identified Risk				Residual Risk			
Item No.	Hazard Identification	Hazard Potential & Consequences	People at Risk		Risk	Control Measures	Risk
1	EXPOSURE TO SMOKE & FUMES (From fires & smouldering material)	SERIOUS INJURY FATALITY Lung Damage, Respiratory Irritation.	YARD OPERATORS CONTRACTORS		12 MEDIUM	<ul style="list-style-type: none">Employees are given particular filtered disposable masks (P3).Employees & Contactors have under taken fit face testing.The Area is a well ventilated area.FFP3 masks and goggles are all stored at the Fire Fighting Assembly Point.SWP for fire fighting is in place, involving teams, so no individual is left unaccompanied, system of work includes means of contact between adjacent Yards and Fire Controllers.	6 LOW
2	EXPOSURE TO FIRE (During Fire Fighting)	SERIOUS INJURY FATALITY BURNS	YARD OPERATORS CONTRACTORS		12 MEDIUM	<ul style="list-style-type: none">Employees has received Fire Extinguisher / Fighting training by Fire Training co, who comment (after the training) on how good the team are.Fire Fighting equipment is in place in the form of hoses and suppression systems.Personal Protective Equipment (PPE) is worn by all (High Visibility Clothing, Steel Toe Cap Boots, Hard Hats, Gloves and Masks).SWP for fire fighting is in place, involving teams, so no individual is left unaccompanied, system of work	6 LOW

						includes means of contact between adjacent Yards and Fire Controllers.	
3	COLLISIONS WITH MOBILE PLANT (During Fire Fighting & times when the smoke is heavy/thick)	SERIOUS INJURY FATALITY (Impact or Crushing)	YARD OPERATORS CONTRACTORS		16 HIGH	<ul style="list-style-type: none"> All Mobile Plant are fitted with flashing beacons, and reversing sirens. Pre-use inspections are made, which would include the above items. Statutory Inspections are carried out of the All mobile plant. Personal Protective Equipment (PPE) is worn by all (High Visibility Clothing, Steel Toe Cap Boots, Hard Hats, Gloves and Masks). 	4 VERY LOW
4	FIRE FIGHTING EQUIPMENT	EYE INJURY DAMAGE TO PLANT	YARD OPERATORS CONTRACTORS		16 HIGH	<ul style="list-style-type: none"> Suppression system in place at the Dirt Bay.(Shredder) Dust suppression system in place in the Mill.(Shredder) Hoses and Fire extinguishers in place around Site. 	4 VERY LOW
5	WORKING AT HEIGHT Falls from height (During Fire Fighting), Slips and Lapses resulting in deviations from the set procedure (Emergency circumstances).	SERIOUS INJURY FATALITY impact injuries from falls, fractures bruising.	YARD OPERATORS CONTRACTORS		16 HIGH	<ul style="list-style-type: none"> Walkways and steps are in place, fitted to the relevant British Standards. Mobile Elevated Work Platform (MEWP) in place on Site for working at height. All personnel who use the MEWP are trained to an Industry Standard IPAF. All Operatives wear fall restraints when working at height. All equipment is subject to 6 monthly Statutory Inspections. Pre-use inspections of equipment are carried out prior to use. All Operators trained in the use of Harness and Fall restraint. Toolbox talk carried out instructing, that under no circumstances that Employees, Contractors take unnecessary risks (e.g. Standing on handrails). 	6 LOW

Figure: 20



HOT WORKS

Risk Assessment Number: RA021

Assessor: COLEEN ANDREWS
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Approver: GARETH JONES
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Action Status: Live Created On: AUGUST 2019
Revision Number: 1

Identified Risk				Residual Risk			
Item No.	Hazard Identification	Hazard Potential & Consequences	People at Risk		Risk	Control Measures	Risk
1	EQUIPMENT AND STORAGE (Fire, Explosions, Manual Handling)	SERIOUS INJURY BURNS MANUAL HANDLING INJURIES	YARD OPERATOR SHEAR CONTRACTOR VISITORS		6 LOW	<ul style="list-style-type: none"> Separate cages are used for storing bottles, with adequate distance kept between them (Ferrous Yard). Cages are fully ventilated and are secured. Oxygen bottles are enclosed in a protected cage (Bank). LPG Bottle is secured to the Bank via a chain. Forklift Trucks are used to transport bottles around the site, using a cage. Pre-use inspections are made of all equipment prior to use. All users have been on a safety flame cutting course. 	4 VERY LOW
2	FLAME CUTTING (Fire, Hot and Heavy Material, Fumes & Dust, Flying Particles "Sparks")	BURNS MANUAL HANDLING INJURIES DAMAGE TO PLANT	YARD OPERATOR SHEAR CONTRACTOR VISITORS		6 LOW	<ul style="list-style-type: none"> Burning Area is made free of combustible materials or damped down. Whilst Working at Height, the area underneath area is made free of combustible materials or damped/hosed down. Burning is done at a safe distance from flammable substances. Hot Work area is inspected at the end of the shift for smouldering material. A Hot Work Permit is in place for contractors. 	4 VERY LOW

					<ul style="list-style-type: none"> • Suitable burning lamps are used to keep the Operator at a safe distance. • Pre-use inspections are made of all equipment prior to use. • All users have been on a safety flame cutting course. • Occupational Health Checks are made annually (Lung Function Tests, etc.) • PPE is worn – Flame retardant overalls, helmet/goggles/face shield, Rigger boots (no laces), Welding Gauntlet gloves. • Respiratory Masks are available on request. • Fire Fighting Equipment is made easily accessible. • Hoses and large Powder extinguishers are positioned around the site. • Fire Fighting risk assessment carried out. • Fire Fighting SWP in place. • Fire Marshals in place. 	
3	WELDING (Fire, Hot Material, Fumes & Dust, Flying Particles “Sparks”)	BURNS MANUAL HANDLING INJURIES RESPIRATORY PROBLEMS DAMAGE TO PLANT	YARD OPERATOR SHEAR CONTRACTOR VISITORS	6 LOW	<ul style="list-style-type: none"> • Welding Area is made free of combustible materials. • Whilst Working at Height, the area underneath area is made free of combustible materials. • Welding is done at a safe distance from flammable substances. • Hot Work area is inspected at the end of the shift for smouldering material. • Pre-use inspections are made of all equipment prior to use. • A Hot Work Permit is in place for contractors. • All users have been on a safety electrical welding course. • Welding Sets comply to BSEN60974-1990. • All leads are in good condition. • Occupational Health Checks are made annually (Lung Function Tests, etc.) • PPE is worn – Flame retardant overalls, helmet/face shield, Rigger boots (no laces), Welding Gauntlet gloves, suede sleeving is available on request. • Respiratory Masks are available on request. • Fire Fighting risk assessment carried out. • Fire Fighting SWP in place. • Fire Marshals in place. 	4 VERY LOW

4	HAND GRINDING (Abrasive Wheel (rotating disc at speed), Flying Particles "Sparks", Hot Material, Dust/Fume, Noise, Vibration, etc)	BURNS EYE INJURIES MANUAL HANDLING INJURIES RESPIRATORY PROBLEMS VIBRATION WHITE FINGER DAMAGE TO PLANT CAUSED BY FIRE	YARD OPERATOR SHEAR CONTRACTOR VISITORS	12 MEDIUM	<ul style="list-style-type: none"> • 9" & 4" Hand Grinders are of a 110V supply. • 110V Transformer is of a fixed supply. • Grinders Cables are in good condition (PAT Tested). • Grinders are CE marked. • Grinders Handles and Guards are in good condition. • Correct Spanner is used to change Grinders Disc. • The Area, in which the Disc Cutter is used, is made free of combustible materials. • Whilst Working at Height, the area underneath area is made free of combustible materials. • Disc Cutting is done at a safe distance from flammable substances. • Occupational Health Checks are made annually (Lung Function Tests, etc.) • Minimum exposure to vibration due to the time spent grinding. • All Operatives have completed Abrasive Wheel Training. • PPE Worn, - Wrap around goggles, Gauntlet gloves, etc. Respiratory Masks are available on request. 	5 VERY LOW

Figure: 21



SAFE USE of CONTRACTORS
Risk Assessment Number: RA022

Assessor: COLEEN ANDREWS
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Identified Risk				Residual Risk		
Item No.	Hazard Identification	Hazard Potential & Consequences	People at Risk	Risk	Control Measures	Risk
	Do to the number of contractors used, and various activities performed, from civils, fabrication, construction, maintenance, repair, cleaning etc hazards will be far ranging, however key hazards typical of contractors are recorded below.	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES VISITORS	6 LOW	<ul style="list-style-type: none"> Company wide policy on the Safe use of contractors. Risk Assessments and Method Statements are required for Hazardous activities. Contractors are supervised on Hazardous activities. Selection of contractors is via approved contractors list held on the Health and safety Master File. Authorisation to Work is in place. Site Rules are applied through a site induction, where a copy of the rules and Health and Safety Policy is Provided. 	4 VERY LOW
1	FALLS FROM HEIGHT	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES VISITORS	6 LOW	<ul style="list-style-type: none"> As above. Monitor through Supervision 	4 VERY LOW
2	MOVING MACHINERY Mechanical hazards such as entrapment, shearing, drawing in, entanglement, crushing, impact, etc. Failure of lifting equipment.	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES	6 LOW	<ul style="list-style-type: none"> As Above Monitor through Supervision Relevant SWP to be issued to contractors. 	4 VERY LOW

3	TRANSPORT working in vicinity of moving vehicles, resulting in impact, crush etc.	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES VISITORS	6 LOW	<ul style="list-style-type: none"> As Above Monitor through Supervision Transport Risk Assessment in Place Traffic Plan to be issued and signed off. 	4 VERY LOW
4	FIRE uncontrolled works resulting in fire, or explosion	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES VISITORS	6 LOW	<ul style="list-style-type: none"> As Above Monitor through Supervision Transport Risk Assessment in Place Traffic Plan to be issued and signed off. 	4 VERY LOW
5	ELECTRICITY High voltage, contact resulting in electric shock, flash, burn explosion	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES	6 LOW	<ul style="list-style-type: none"> As Above Monitor through Supervision 	4 VERY LOW
6	HYDRAULIC SYSTEMS, sudden release of fluid under pressure, or whip action of hose	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES	6 LOW	<ul style="list-style-type: none"> As Above Monitor through Supervision 	4 VERY LOW
7	SUBCONTRACTORS Unauthorised usage of sub-contractors poorly trained to sites requirements	SERIOUS INJURY FATALITY	CONTRACTORS EMPLOYEES	6 LOW	<ul style="list-style-type: none"> As Above Monitor through Supervision 	4 VERY LOW